SEEN analysis lies at the intersection of natural and social sciences. As such, it is a hotspot for the development of new methods and concepts. Meta-analyses will combine datasets on exchanged seeds and on the social relationships between giver and recipient. We will compare visual representations of social network analysis softwares such as NetDraw (Borgatti 2003), NetVis (Cummings 2003), and Pajek (Batagelj and Mrvar 2003) with a model based on a semantic graph approach (Martin 2010). The goal is to give "sense" to our data among the heterogeneity of factors in order to predict certain aspects of SEEN functioning.

Part 1: Oral presentations

Farmers' social identity and crop genetic diversity. The G x E x S model

Christian Leclerc, Geo Coppens d'Eeckenbrugge

Abstract: A better knowledge of factors organizing crop genetic diversity *in situ* increases the efficiency of diversity analyses and conservation strategies, and requires collaboration between social and biological disciplines. Four areas of anthropology may contribute to understand the impact of social factors on crop diversity: ethnobotany, cultural, cognitive and social anthropology. So far, most collaborative studies have been based on ethnobotanical methods, focusing on farmers' individual motivations and actions, but overlooking the effects of farmer's social organization *per se*. We analyze how social anthropology, analyzing intermarriage, residence and seed inheritance, can contribute to studies of crop genetic diversity *in situ*, by considering crop varieties as social objects and by designing socially based sampling strategies. Because seed exchange is built upon trust, seed systems are embedded in a pre-existing social structure and centripetally oriented as a function of farmers' social identity. The strong analogy between farmers' cultural differentiation and crop genetic differentiation; both submitted to the same vertical transmission processes, allows proposing a common methodological framework for social anthropology and crop population genetics, where the classical interaction between genetic and environmental factors, G x E, is replaced by a three-way interaction G x E x S, with "S" designating the social differentiation factors.

Does social organisation shape crop diversity? A case study among Tharaka farmers in Kenya

Vanesse Labeyrie, Christian Leclerc

Abstract: Identifying the factors that influence crop diversity patterns in-situ is a major challenge for its conservation. Despite the role of farmers in the construction and management of crop diversity, social factors have been widely neglected in this approach. Can different social groups living in the same environment have different folktaxonomy underlying crop diversity ?
In the Tharaka community on the Eastern side of Mount Kenya, farmers living in the same neighboring group (*ntora*) usually cooperate for agricultural tasks. In contrast, cooperation between groups is uncommon and reflects the scarcity of their social relations which limits potentially the exchange of knowledge. Sorghum (*Sorghum bicolor* (L.) Moench) folktaxonomies of 95 tharaka farmers belonging to 11 *ntora* were compared to describe knowledge exchange patterns through social network. Inter-class multivariate analysis was applied to compare crop species and sorghum landraces inventory between *ntora*. The comparison or crop species inventory between *ntora* reveals differences. Free lists of sorghum landraces cultivated by tharaka farmers were recorded, enabling us to compare the sorghum